Figure1

DPP

FeBP

EBP

RBP

MBP

HBP

GBP

SBP

QBP

ABP

PBP

```
                   47                  67                  87                 107                 127
gln BP   ---------ADKKLVVATD TAFVPFEFKQGD-KYVGFDV DLWAAIAKELK-------LD YELKPMDFSGIIPALQTKNV DLALAGITITDERKKAIDFS
his BP   ---------AIPQNIRIGTD PTYAPFESKNSQGELVGFDI DLAKELCKRIN-------TQ CTFVENPLDALIPSLKAKKI DAIMSSLSITEKRQQEIAFT
YBEJ     MAGSTLDKIAKNGVIVVGHR ESSVPFSYDNQQKVVGYSQ DYSNAIVEAVKKKLNKPDLQ VKLIPITSQNRIPLLQNGTF DFECGSTTNNVBRQKQAAFS
                                                                            p    p   a

                  147                 166                 186                 206                 226
gln BP   DGYYKSGLLVMVKANNNDVK SVKDLDGKVVAVKSGTGSVD YAKANIKTK--DLRQFPNID N--AYMELGTNRADAVLHDT PNILY-FIKTAGNGQFKAVG
his BP   DKLYAADSRLVVAKNSDIQP TVESLKGKRVGVLQGTTQET FGNEHWAPKGIEIVSYQGQD N--IYSDLTAGRIDAAFQDE VAASEGFLKQPVGKDYKFGG
YBEJ     DTIFVVGTRLLTKKGGD-IK DFANLKDKAVVVTSGTTSEV LLNKLNEEQKMNMRIISAKD HGDSFRTLESGRAVAFMDD ALLAGERAKAKKPDNWEIVG
         a   a                                                                            pp pp

                  241                 261                 281                 301
gln BP   DSLEAQQYG-----IAFPKG SDELRDKVNGALKTLRENGT YNEIYKKWFGTEPK----- ----------
his BP   PSVKDEKLFGVGTGMGLRKE DNELREALNKAFAEMRADGT YEKLAKKYFDFDVYGG---- ----------
YBEJ     KPQSQEAYG-----CMLRKD DPQFKKLMDDTIAQVQTSGE AEKWFDKWFKNPIPPKNLNM NFELSDEMKALFKEPNDKAL N
                                                       ppp
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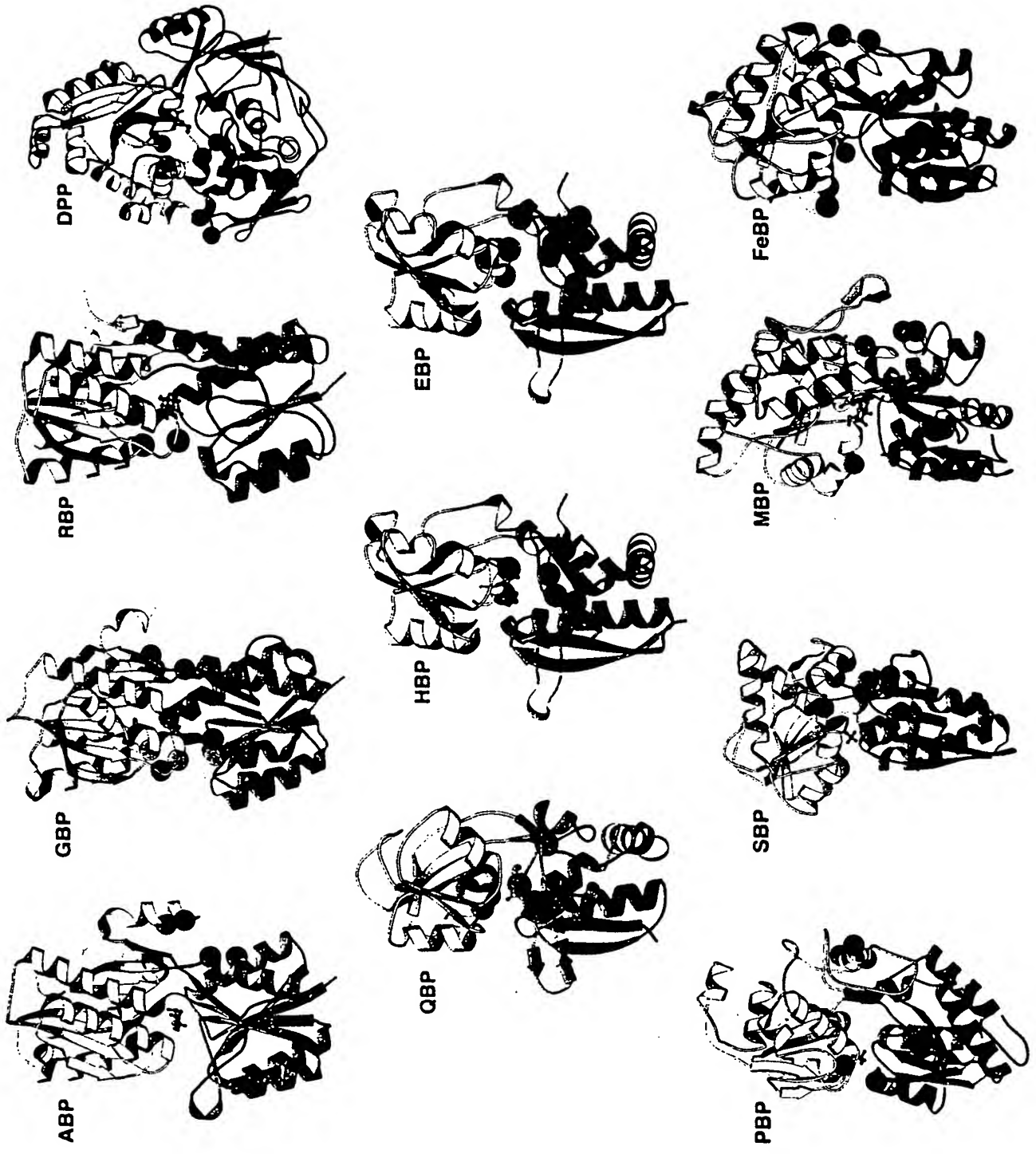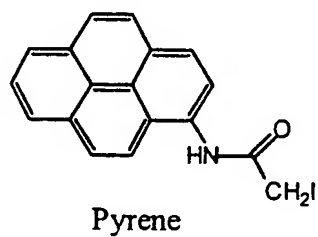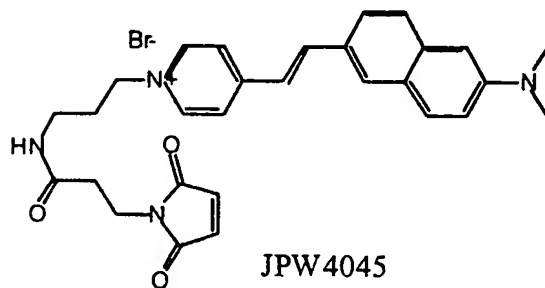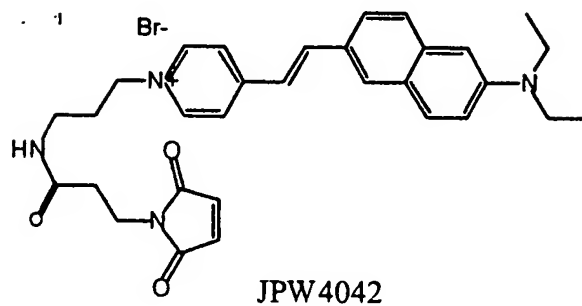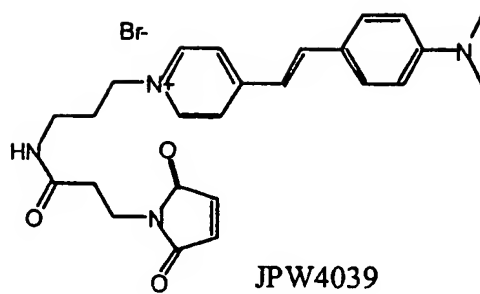
Figure 2

Acrylodan

NBD

NBDE

Fluorescein

JPW4039

JPW4042

JPW4045

Pyrene

Figure 3

A

λ_{max, ext}

Fluorescence (Arbitrary Units)

$\lambda_{max, ext}$

I_2

$\lambda_{max, ems}$

I_1

0.5
0.4
0.3
0.2
0.1
0

650   600   700   750

λ_{std}

wavelength (nm)

B

A_2

Fluorescence (Arbitrary Units)

0.5
0.4
0.3
0.2
0.1
0

A_1

⬜ = A
▦ = A

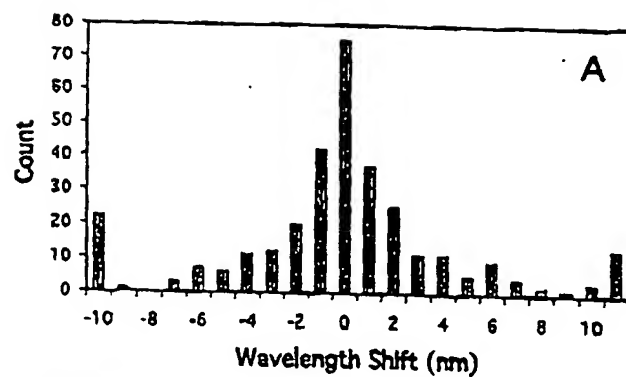650 λ_1 λ_2 600 λ_3 650 λ_4 700   750

wavelength (nm)
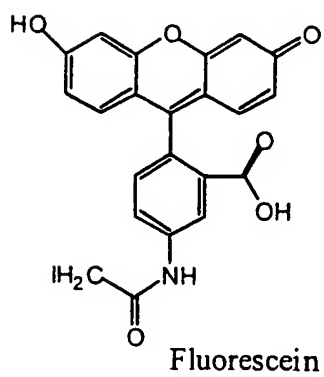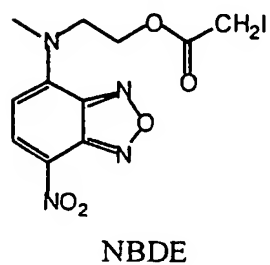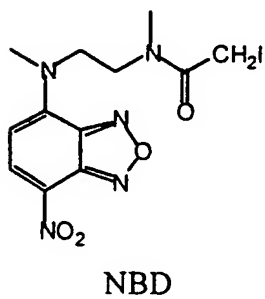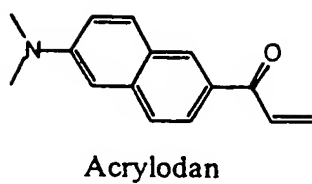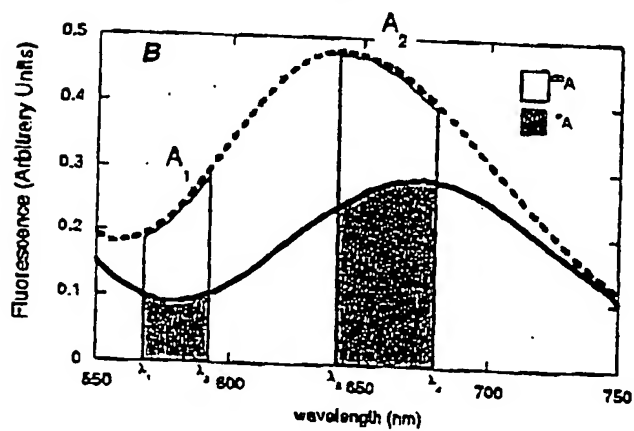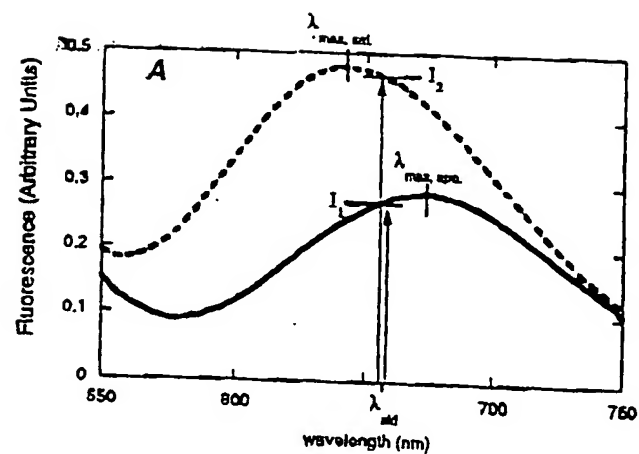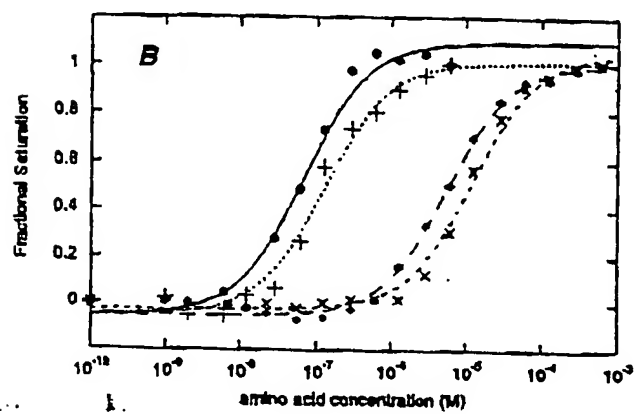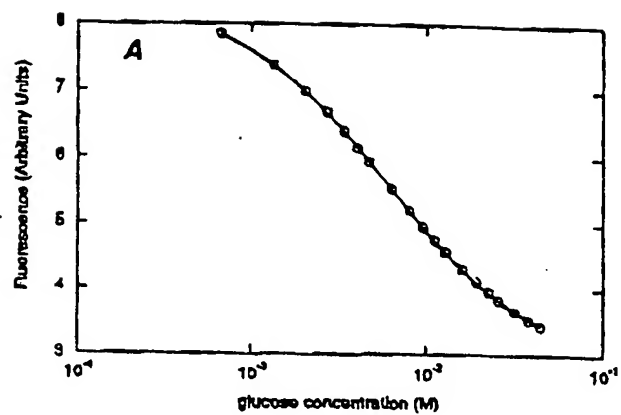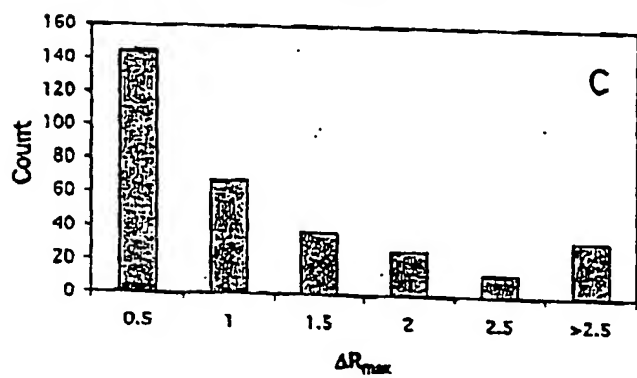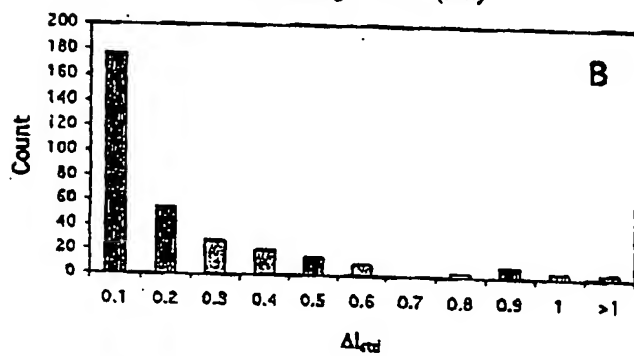
Figure 4

Figure 5

Figure 6

Figure 7

Figure 8